Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application: Please cancel Claims 1-2 and 4-34. Claim 3 was previously cancelled. Please add new Claims 35-60. No new matter has been added in amending the claims.

Listing of Claims:

Claims 1-34 (cancelled).

Claim 35. (New): A method for driving an infusion pump motor, the method comprising the steps of:

determining a position in a pump cycle;

determining a flow rate; and

adjusting an electrical current value for driving the infusion pump stepper motor in response, at least in part, to the position in the pump cycle and the flow rate as separate factors, wherein the steps of determining are accomplished at least 200 times per revolution of the stepper motor.

Claim 36. (New): The method of claim 35, wherein the position in the pump cycle and an expected electrical current value are related to each other in a relational database.

Claim 37. (New): The method of claim 35, wherein the position in the pump cycle, the flow rate and an expected current value are stored in a database, and wherein the position in the pump cycle and the flow rate are related to the expected electrical current value.

Claim 38. (New): The method of claim 35, further comprising a step of modifying the electrical current value in response to input from a temperature sensor.

Claim 39. (New): The method of claim 35, further comprising a step of modifying the electrical current value in response to input from a pressure sensor.

Claim 40. (New): The method of claim 35, further comprising a step of modifying the electrical current value in response to an elapsed time value.

Claim 41. (New): The method of claim 35, further comprising a step of modifying the electrical current value in response to an age of the infusion pump motor.

Claim 42. (new): The method of claim 35, further comprising a step of half-stepping the infusion pump motor.

Claim 43. (new): The method of claim 35, further comprising the step of microstepping the infusion pump motor.

Claim 44. (new): A system for controlling an infusion pump, the system comprising:

a motor controller having an output responsive to a plurality of inputs, the motor controller configured to output an electrical signal and to adjust the electrical signal;

a current driver having an electrical current output responsive to the motor controller electrical signal;

a stepper motor responsive to the electrical current; and

at least one sensor having an output to the motor controller, wherein the motor controller is configured to determine a position of the motor with respect to the pump cycle or with respect to an output volume of the pump, and wherein a table of an expected electrical current value for a plurality of motor positions or output volumes are stored in a relational database accessible by the motor controller, and wherein the relational database includes a table for an expected electrical current value based upon at least one of an ambient temperature, a backpressure of the fluid pumped by the infusion pump, an age of the motor, and an age of tubing used in the infusion pump.

Claim 45. (new) The system of claim 44 further comprising a battery for operating the infusion pump.

Claim 46. (new) The system of claim 44 wherein the sensor is a temperature sensor.

Claim 47. (new) The system of claim 44 wherein the sensor is a pressure sensor.

Claim 48. (new) The system of claim 44 wherein the sensor is responsive to changes in the position of the stepper motor.

Claim 49. (new): The system of claim 44 wherein the output of the motor controller is responsive to changes in the age of tubing used for administering medication.

Claim 50. (new): The system of claim 44 wherein the output of the motor controller is responsive to changes in the age of the stepper motor.

Claim 51. (new): The system of claim 44 wherein the controller and memory are within a microcontroller.

Claim 52. (new): The system of claim 44 further comprising a stepper motor position sensor.

Claim 53. (new): A system for controlling an infusion pump, the system comprising:

an infusion pump;

a motor controller within the infusion pump, the controller having an output responsive to a plurality of inputs, the motor controller configured to output an electrical signal and to adjust the electrical signal;

a current driver having an electrical current output responsive to the motor controller electrical signal;

a stepper motor within the infusion pump, the stepper motor responsive to the electrical current; and

at least one sensor having an output to the motor controller, wherein the motor controller is configured to determine a position of the motor with respect to the pump cycle or with respect to an output volume of the pump, and wherein a table of an expected electrical current value for a plurality of motor positions or output volumes is stored in a relational database accessible by the motor controller, and wherein the relational database includes a table for an expected electrical current value based upon at least one of an ambient temperature, a backpressure of the fluid pumped by the infusion pump, an age of the motor, and an age of tubing used in the infusion pump.

Claim 54. (new) The system of claim 54, further comprising a battery for operating the infusion pump.

Claim 55. (new) The system of claim 44 wherein the sensor is a temperature sensor.

Claim 56. (new) The system of claim 44 wherein the sensor is a pressure sensor.

Claim 57. (new) The system of claim 44 wherein the sensor is responsive to changes in the position of the stepper motor.

Claim 58. (new): The system of claim 44 wherein the output of the motor controller is responsive to changes in the age of tubing used for administering medication.

Claim 59. (new): The system of claim 44 wherein the output of the motor controller is responsive to changes in the age of the stepper motor.

Claim 60. (new): The system of claim 44 which includes an additional sensor and wherein the output of the additional sensor is responsive to changes in the position of the stepper motor.